IN THE UNITED STATES DISTRICT COURT FOR NORTHERN DISTRICT OF MISSISSIPPI, WESTERN DIVISION

FRED BECK, ET AL.,)
)
Plaintiff,)
)
vs.) No. 3:03CV60-P-D
)
KOPPERS, INC., ET AL.,)
)
Defendants.)
_____)

DEPOSITION OF JAMES DAHLGREN, M.D.
SANTA MONICA, CALIFORNIA
WEDNESDAY, APRIL 6, 2005
VOLUME II

Reported by:
VIRGINIA PETERAITIS
CSR No. 6205
Job No. 909897

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Deposition of JAMES DAHLGREN, M.D.
Volume 2, taken on behalf of Defendants, at 2811 Wilshire Boulevard, Suite 510, Santa Monica, California, beginning at 8:00 a.m. and ending at 5:00 p.m. on Wednesday, April 6, 2005, before VIRGINIA PETERAITIS, Certified Shorthand Reporter No. 6205.

APPEARANCES:

For Plaintiffs:
LUNDY & DAVID L.L.P.
BY: HUNTER W. LUNDY
Attorney at Law
501 Broad Street
Lake Charles, Louisiana 70602
(337) 439-0707

For Defendants Beazer East, Inc.; Koppers, Inc.:

WILDMAN, HARROLD, ALLEN & DIXON LLP
BY: ANTHONY G. HOPP
Attorney at Law
225 West Wacker Drive
Chicago, Illinois 60606
(312) 201-2537

For Defendant Illinois Central Railroad:
UPSHAW, WILLIAMS, BIGGERS, BECKHAM & RIDDICK, LLP
BY: LONNIE D. BAILEY
Attorney at Law
309 Fulton Street
Greenwood, Mississippi 38935
(662) 455-1613

Also Present:

KAY BANG
RANDALL COLLINS

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EXHIBITS

Santa Monica, California, Wednesday, April 6, 2005
8:00 a.m. - 5:00 p.m.

JAMES DAHLGREN, M.D.
having been first administered an oath, was examined and testified as follows:

EXAMINATION

BY MR. HOPP:

Q Good morning. This is day two of Dr. Dahlgren's deposition in the Beck case.

Do you remember you're still under oath?

A Yes.

Q Yesterday when we left off, we were talking about some differences or discrepancies between the control values that Dr. Schecter had published in 2000 and the control values reported in several of your recent papers, in particular the Persistent Organic Pollutants in the 9/11 World Trade Center Rescue Workers, The Biomonitoring for Creosote and Pentachlorophenol in Nearby Residents of a Wood Treatment Plant and The Exposure Assessment of Residents Living Near a Wood Treatment Plant.

You were going to look around to see if you can help us to answer some of the questions you raised about those discrepancies.

Have you done that?

A Yes.

Q What have you found out?

A Well, there is an explanation which -- first of all, let's start with the World Trade Center paper, the normal values. Those were from Dr. Schecter and they were just published in March in the JOEM on page 208, Table 6.

Q That's the Journal of Occupational and Environmental Medicine?

A Yes. Table 6 values.

Q Can we have a photocopy of this at some point?

A Yes.

Q Before you went on the record, you took my copy of something that had been published in the Organohalogen Compounds. Is that a different journal?

A Yes. That's the proceedings from the dioxin 2004.

Q So it would have been published in the proceedings and later published in the JOEM journal. Is there a difference as to what was published in the Organohalogen Compounds and the JOEM?

A Not for the control values.

Q Do you know the source then of Dr. Schecter's control values for --

A It's listed here in the article from a variety of different places, blood he obtained from different locations.

Q It says on page 201 of the JOEM article that the whole blood from 29 individuals in Mississippi and 10 from New York City was collected.

Did Dr. Schecter use some of the blood you collected for one of the lawsuits you were working on?

A Yes.

Q Which lawsuit was that?

A I think this one.

Q So he used the 29 individuals from the Greenspring area as his control values for the New York City fire fighters?

A Well, those were values that he used. This paper is mainly about the polybrominated biphenyl ethers. That was the main purpose of it.

Q You gave me this article, and it's kind of lengthy and have not read it yet, but you did say he collected blood from various places and that he used that for control values.

Other than the 29 Grenada residents, where else did he get the blood used for control values in the article about the New York City fire fighters?

A Archive samples from a 100 Dallas residents

contributed by Dr. Luby, a hundred bloods from 2003 anonymously discarded from UT Southwestern and it was a variety of sources.

Q He then just averaged the values he got from the various congeners to come up with his background numbers?

A Yes.

Q I'd like photocopy of this.

MR. LUNDY: So the record is clear, you keep referring to Greenspring, and I assume you mean Grenada. Obviously you're depending another suit in Greenspring.

MR. HOPP: That was several years ago. I get the G's confused. I mean Grenada. I apologize. This case has nothing to do with Greenspring, and if I ever say that, I mean Grenada.

Q In the article in JOEM, what do you conclude about the TEQs for the New York City fire fighters?

A Well, I think this doesn't have anything to do with New York City fire fighters. That's not the point of the article.

Q Sorry. I'm looking at the wrong thing.

A No, the main conclusion of that paper is that PBDE's in the United States are a 100 to 200 times higher than the PBDE's in Europe, and it's a big problem and we have to address it.

Also in the paper it shows an 80 percent reduction in dioxins, that I mentioned to you yesterday, between '73 and 2003. In the 30-year time span there is significant reduction in dioxin levels in the United States.

Q So I'm trying to understand. We started off talking about the New York City fire fighter article.

A You wanted to know where the normals came from.

Q So we were talking about the New York City fire fighters, and you referred me to an article having to do with flame retardants, particularly Table 8 in the article in the JOEM, which contains the same values that Dr. Schecter reported in the New York City fire fighter article.

A Yes.

Q And it's your testimony that the article on flame retardants answers the question about where Dr. Schecter got his control values that we see in the New York City Fire Fighters article?

A That's correct.

Q Excuse me if I asked you this before, the New York City Fire Fighters article indicates that the TEQs for the fire fighters was 23.4 and the TEQs for the control value was 34.06.

A Yes.

Q Did that mean the TEQ was not elevated for the New York City Fire Fighters?

A As a group, it was not elevated. That's correct.

Q Let me show you another version of what we marked deposition Exhibit 6. Deposition Exhibit 6 is the or Organohalogen Compounds article entitled Biomonitoring for Creosote and Pentachlorophenol in Nearby Residents of a Wood Treatment Plant; is that correct?

A Yes.

Q And that article uses the same control values we see in the article Dr. Schecter published in the JOEM in March; right?

A Yes.

Q And that once again explains the origin of those control values; right?

A That's correct.

Q Looking again at deposition 6, the total TEQs for the exposed residents in 33; is that right?

A Exposed residents? What are you talking about.

Q Table 1, on deposition Exhibit 6.

A This is the fire fighters.

Q I'm sorry. I switched articles on you. Deposition Exhibit 6 is Biomonitoring for Creosote and Pentachlorophenol of Nearby Residents in a Wood Treating

Plant. Do you see that?

A Yes.

Q Flip to Table 1, please.

A Yes.

Q Table 1 indicates the total TEQs for the exposed residents is 33?

A I see that.

Q The TEQs for the Dallas controls or the control values Dr. Schecter has is 34; is that right?

A That's correct.

Q Does that indicate that at least according to this calculation the TEQs for the exposed residents is not elevated?

A That's correct.

Q Deposition Exhibit 4 was your article on Exposure Assessment of Residents Living Near a Wood Treating Plant published in 2003.

Were you able to determine the origin of the control values you used in that article?

A Yes. I've got to call Dr. Schecter at 9:00 o'clock our time to confirm this, but he believes that he did publish these values, but he didn't recall off the top of his head where they were different than the values you found for a paper published by Schecter in 2000. That's the presentation he made at the dioxin 2000

meeting. He and Dr. Papke presented their '96 values for the dioxin values.

This one that he gave me for this paper came from bloods that were collected in 200 and not published in the '96 values. He indicated to me that he does basically a collection each year, and he feels pretty sure he published all of this each year. Where this one was published, however, he was not sure and he will check and I will call him at 9:00 o'clock our time to find out.

Q Let's take a break at some point and after the break we'll talk if you got an answer about that.

A There is another thing he said, that the differences are very slight from year to year, and certainly the general values that we see here are quite consistent from year to year, with the overall decline that I mentioned between '73 and 2000.

Q You stated a couple of times that there is an overall decline in what precisely between '73 and 2000?

A The dioxins.

Q In what?

A In the blood.

Q Where? In the U.S?

A That's what I said, in the United States.

Q I'm making sure you said United States.

A Table 8 of this article shows the decline in

dioxins, furans, PCBs, mono, ortho PCBs and some TEQs. The TEQs in '73 were 148 and that was the mean value. In 2003, they were 26.8, so that's an 82 percent reduction.

Q So between '73 and 2003?

A That's correct.

Q So we're clear for the record, this is figure 5 in the JOEM article published in March 2005?

A Correct.

(Defendants' Exhibit 8 was marked for Identification by the court reporter.)

BY MR. HOPP:

Q I've handed you deposition Exhibit 8. Have you ever seen deposition Exhibit 8 before.

A No, I have not seen this paper before.

Q Exhibit 8 is an article written by Dr. Schecter on the subject we were just discussing. The title is "Is There a Decrease in General Population Dioxin Body Burden? A Review of German and American Data."

A Yes.

Q Written by Schecter, Olaf Papke and Peter Furst?

A Yes.

Q You know both Dr. Schecter and Papke?

A Yes.

Q Do you know Peter Furst?

A Yes.

Q I'd like you to flip to page 58, the second page of the article, second full paragraph under the heading Discussion, it says: "A decrease in TEQ is consistently found in samples in Germany but not consistently found in the U.S."

Is it your understanding that at least in 1996 Dr. Papke and Dr. Schecter were not finding a decline of TEQ values in the United States?

A Yes, that's what it says.

Q Do you that this decline really occurred between 1996 and 2003?

A I can't answer that question. I think the data we have shows there is a difference between '73 and 2003, seems to be quite significant. What the curve is between those two data points is a little unclear.

The '96 values present in this paper are somewhat intermediate but it doesn't include the PCBs, this 1996 paper. You look at the total TEQS, PCBS are a big contributor to the total TEQs.

Q The decrease in total TEQs referenced in the JOEM article from March 2005 is a combination of total TEQs for dioxins and PCBs?

A Yes.

Q Have the levels for PCBs, that is the total

TEQs on average in the United States for PCBs dropped more rapidly than total TEQs for dioxins?

A I don't know the answer to that off the top of my head.

Q That's something Dr. Schecter will have to answer for us?

A Yes. He can probably give you answers off the top of his head but I'm not certain of that. He usually when I ask him questions like that has to go and do some research before he can answer.

Q I want to go back to the fire fighters again for a moment. You indicated that the Hubbard treatment is not a characterization or a term you use; is that correct?

A Correct.

Q What term do you use for the treatment of regime that you administered to the WTC fire fighters?

A I call it the detoxification process and if asked for more detail, I explain what it entails and to me it's just detoxification. We know it reduces PCB levels significantly.

Q Do we know whether it reduces dioxin levels?

A Yes.

Q Have you considered administering it to any of the residents of Grenada?

A I think it would be a good idea to do that.
Q Have you suggested it to anyone in Grenada?
A I mentioned it to Mr. Lundy but, I think it's a good idea for anybody that has an elevated value of PCBs or dioxins to consider doing something to reduce the level because we know that judging by the fire fighters in New York and also the Yugoslavian patients treated and the PVB patients treated with the treatment that it helps them feel better and theoretically reduces the risk of future disease and definitely would a good idea to administer this treatment to individuals in Grenada.
Q Now, you said a moment ago that it theoretically reduces the risk of future disease.
Is there any evidence that you're aware of that it does reduce the risk of future disease? Has that been studied?
A Not really. We do have -- we can infer from the data that shows the dose makes the poison, that the more of the poison you have in your body the more likely you are to have an adverse effect, and that's a general principle we can accept.
And by lowering the internal does, it reduces the adverse effects that occur, including things like cancer which would be one of the risks that we discussed would be increased by the presence of dioxins in the

body.
Q To put it in layman's terms, higher dose equals higher risk; right?
A Yes.
Q If you lower the dose, you lower the risk?
A Yes.
Q Let me show you what we'll mark as deposition Exhibit 9.
(Defendants' Exhibit 9 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Deposition Exhibit 9 is a letter on your stationery. Did you write this letter?
A Yes.
Q Who is Apryl McNeil?
A She is the doctor who is in charge of the downtown Medical Center in New York City.
Q Do you work with Dr. McNeil?
A Yes.
Q Do you work with her on an ongoing basis?
A Yes.
Q Are you still involved in this detoxification program?
A Yes.
Q Are you being paid for your work on the

detoxification program?
A No.
Q All your work is voluntary work?
A Correct.
Q Let me show you what we'll mark Exhibit 10.
(Defendants' Exhibit 10 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Deposition Exhibit 10 is a reprint of a newspaper article, a news wire article that mentions your name.
This is April 2004, and deals with the detoxification program for the fire fighters, and I know you didn't write the article, but reviewing it briefly is this the same program we've been talking about, the detoxification program you administered to the New York City fire fighters?
A Yes.
Q Was Mr. Tom Cruise involved in raising funds for that effort?
A That's correct.
Q And you're quoted in the article, do you see that on page 2?
A Yes.
Q And the quote is, "It's already established

that this exposure was so unprecedented and complex that we will never understand it completely."
Is that an accurate quote, did you say that?
A Yes.
Q And then you go on -- there is another quote from you -- "What we really need to focus on is helping victims recover. This is the only program that addresses the causes of toxic illness."
Do you see that?
A Yes.
Q Is that an accurate quote?
A Yes.
Q I want to talk to you about another detoxification regimen.
(Defendants' Exhibit 11 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Deposition Exhibit 11 is a reprint of an article from a publication called the Humanist and deal with a regimen referred to Narconon.
Do you see that?
A Yes.
Q Are you familiar with Narconon?
A Well, I know what it is and I don't know too much else about it. It's a drug treatment program that I

think was started by L. Ron Hubbard, the same person that started Scientology.

Q What is your understanding of what is involved in the Narconon treatment?

A Well, I think they do have detoxification using some of the same techniques, and I've not personally got involved with Narconon in any way, but it seems to me that they do a detoxification that's similar.

In fact, as I understand it, this was how they started the particular detoxification regimen using it as a drug treatment program, and then in the early 80's, as I said yesterday, it was adapted for purposes of treating the patients in northern Michigan exposed to the polybrominated biphenyl ethers -- biphenyls.

Q The article on page 4 states, in the fourth full paragraph down, "In response to allegations of pseudoscience, Narconon provides supporting commentary from James Dahlgren, M.D. of the UCLA School of Medicine," and it mentioned other folks.

Did you provide data or a letter in support of Narconon?

A No.

Q What supporting commentary did you give, if any?

A They called me once and asked me about the

issue that -- apparently there was some question about whether or not there were drugs stored in the body, and I told them there is substantial solid scientific evidence that marijuana in particular is stored in the body for literally years and similar to PCBs.

And some of the other drugs have a long half-life, like LSD and PCP and encyclodene, sometimes called angel dust, and even cocaine and other chemicals have a slow washout period. There's the initial quick dropoff, but then a slow washout. So the use of drugs -- heavy use is frequently associated with a persistence in the body for months to years of these chemicals, and that part of the reason why Narconon is more successful than other drug treatment programs is that they by washing these chemicals out of the body and reducing the levels significantly, they helped reduce the craving that people have for them and help them stay off of drugs.

The piece that they asked me about is, is there scientific evidence that these chemicals do persist in the body, and I said that there is a large body of evidence on that point, and that's probably the source of this quote.

Q So it was a telephone conversation you had with someone?

A Keith Miller, the head of organization that is

called the Foundation for Advancement of Science and Education, FASE, and he's very active with Narconon.

Q Do you do ongoing work with Keith Miller?

A Other than the role I play of being the toxicologist for the New York City detoxification project where Keith Miller is involved, that's the only relationship I have with him.

Q While we're at it, I want to discuss another quote that has been attributed to you, another subject where you're mentioned in a newspaper article, and we'll mark that as 12.

(Defendants' Exhibit 12 was marked for identification by the court reporter.)

BY MR. HOPP:

Q Deposition Exhibit 12 is a reprint from an article in a publication called Vegetarian Times and you're quoted on page 2 of the reprint discussing something called the hygiene hypothesis.

Do you see that?

A I see that.

Q What's that hygiene hypothesis?

A That is by keeping people too clean their immune systems don't get stimulated and are prone to certain problems.

Q Do you ascribe to the hygiene hypothesis or do

you challenge it?

A No, I think there is some validity to it. You know, the body does need to have exposure to germs to develop the immunity to them and, if we don't do that, then there appears to be certain alterations in the immune system and occurrence of allergies and autoimmune disease is increased.

Q There is a sort of a general theory out there that keeping children in particular or keeping our homes too clean contributes to the incidence of childhood asthma.

Are you familiar with that?

A I'm understanding that's part of it and it's also been thought to be a basis for the patients developing Hodgkin's lymphoma and a variety of health problems.

Q Do you agree with that theory in general?

A I think there is evidence for it and there's good reason to not be too ultra-clean with developing children. I don't see any evidence against that hypothesis, but there is gathering evidence and not a lot of that data but some.

Q So the idea is that to build up our immunity or resistance to certain disease processes, we need to be exposed to these low levels of things that cause it?

A You need to have a certain number of infections as a child, both viral and bacterial, for your immune system to be in balance. We're programmed for that sort of thing, and, when it doesn't happen, the immune system gets out of whack.

Q Is there also some evidence that pet dander is a leading cause of childhood asthma?

A I don't know if leading cause but it's been identify as a definite cause. It's probably -- it may be among the more common, but there's a bunch of other antigens in the environment that can trigger asthma in children and pet dander is only one.

Q What other antigens in the environment have been identified as causes of childhood asthma?

A House dust, mite fragments and other insect fragments. Just about any -- things like feathers and synthetic fibers and -- there's hundreds of different items that have been identified.

If you have a child with asthma, you want to asthma-proof your house and do away with carpeting and do away with upholstered furniture and heavy drapes, anything where the dust and insect parts and pet dander and any other complex proteinaceous antigens can hide, and you get rid of your pets and avoid all kinds of environmental chemicals that trigger asthma in a child,

especially if the child has a severe asthma condition, you want to asthma-proof your home.

Most people don't have allergies to everything. They seem to react more strongly to certain items and so you can try to focus your attention on those items that are the most important. There is also the major role of environmental pollutants, that we discussed yesterday, and the oxidant load clearly has an impact.

It turns out that asthma is not simply an allergic disease but a disease of the immune system and basically what happens is that the person with asthma, child or adult, their inflammatory response is exaggerated, and this could be associated with allergies but also associated with other things.

As I mentioned yesterday, oxidant load, but one of the most well described chemical asthmas that we know about is toluene de iso cyanate asthma, and the study of that is that asthma is a very complex disease and TDI alters several different aspects of the inflammatory response and not just one. And it's clearly not simply an allergy. It's not that we develop IGE antibodies or IGA antibodies to TDI, and that forms the mechanism of the disease.

Some patients with TDI asthma don't have antibodies to it at all and still are reacting so it's --

we don't understand all the mechanisms yet, why people get asthma, but it's clear that it's an inflammatory disease and not just simply an allergy, like I think we used to think, and we had an oversimplified view of a very complex process.

Q Is there an allergic component to asthma? Can asthma be triggered by an allergen?

A Yes, it can be. My point is that is not even turning out to be the main cause.

Q After an asthmatic attack is over with, is it possible to draw a blood sample and see whether the level of antigens or allergens in a patient's blood are elevated?

A You can do that, yes. But let me give you an anecdote. I had childhood asthma when I was 3 years old, and we lived in South Central L.A., and I used to get attacks in the evening when the fog would roll in. The doctor that was taking care of me said that you have to move to my parents and get away from that fog that rolls in in the afternoon.

Well, I found out years later -- and my parents moved and I never had another attack of asthma. We moved to Bakersfield. But I found out years later that in that fog was SO2 coming from the power plant a few miles away from our home, and the SO2 levels in that time frame,

1945, were so high that it was causing metal in Garrett Engineering on Sepulveda and Century Boulevard to go out of tolerance in one night.

In other words, they would grind a metal part to a one-thousandth's inch intolerance and leave it on the bench and the next morning they would come in and the part would be out of tolerance, out of balance, and enough of the SO2 had landed on the part to corrode the metal part.

So Garrett Engineering got a scientist to find our where the SO2 was coming from and tracked it down and forced the power plant to put an SO2 scrubber on their unit, and that whole process took several years, and to this day there is one S02 monitor in Southern California and it's next to Garrett Engineering.

Q SO2 is sulphur?

A Sulphur dioxide, a combustion product, when you burn any hydrocarbon fuel that contains sulphur.

Q Like the coal at the power plant?

A Coal or oil, if you will, and it's a common contaminant from many sources.

Q To return to your story, after you moved to Bakersfield --

A I never had an attack in my life.

Q Is Bakersfield out in a drier climate than the

L.A. basin?
A Drier and less polluted.
Q Bakersfield is on the edge of the desert?
A It's in the San Juaquin Valley and considered a semi-dry area. Rainfall is about 12 to 15 inches a year, like L.A., whereas the desert is under 5 inches.
(Defendants' Exhibit 13 was marked for identification by the court reporter.)
BY MR. HOPP:
Q I've handed you what we've marked Exhibit 13. Do you recognize this document?
A Well, I believe it was -- it may be the Greenville data -- and let me look and see. This looks like the Greenville data. This is the report we got from AXYS on the four pooled samples that I believe we talked about.
Q And we talked yesterday about the notion that these four pooled samples from Greenville, Mississippi are the basis of your control population for dioxins in Grenada?
A That's correct.
Q And the report we have in front of us is from AXYS Laboratories in Sydney, British Columbia. Is the report you received in February 2005 on those pooled samples? Is that right?

A That is correct.
Q I'll tell you that I've been through this several times, and I can't find the measurements for the various congeners of dioxins identified in those pooled samples. Can you find it?
A Well, they gave us the spreadsheet of which this is a copy.
Q It's a separate document?
A This is what they sent us originally, and then we said that we need the QC/QA and the methods in paper and all of the various documents that are supportive. So this is just the data that underlies it. The actual report was given to us on a spreadsheet. This is a copy of that spreadsheet.
Q So we're clear, the AXYS report, Exhibit 13, this is essentially the lab report?
A Right. You can see the sample prep records and they took all the samples and combined ten of them into one, and so they didn't give us any individual reports and gave us to us in a spreadsheet. Yesterday when I realized that, I asked them to send us one of their typical reports, and, since they're pooled samples, their normal methodology is to report individual patients, if you know what I mean.
Q So we're clear, can we mark this?

A Yes.
(Defendants' Exhibit 14 was marked for identification by the court reporter.)
BY MR. HOPP:
Q I'm handing you back what we marked deposition Exhibit 14. Continue with your answer.
A Because this wasn't their normal standard practice, they didn't send us the normal standard report, which is for an individual patient. Their system is such that this pooled sample, the Axys I.D. number -- what I'd like them to do is stick that in as a name and give it as a pooled sample, and we're trying to get them to do that and this is the data they sent us.
Q So you're still waiting for more information from AXYS?
A No. I'm just asking for it to be in a report format so each one of the pooled samples will have its own value.
Q I want to make sure I understand. You're waiting for a report in a different format from AXYS?
A Well, this is perfectly adequate for our purposes scientifically, and gives us the result of each pooled sample, and the methodology is laid out here and, you know, this is perfectly adequate. Then we have the mean values of these two means

together, and these two means together, and then all four of them over here together. And, as you can see, they're very similar to order of magnitude across the board and very similar to what we see, for example, in this 2005 article that we just were referring to, the values here on Table 6.
MR. LUNDY: It's 9:00 o'clock.
(Recess.)
BY MR. HOPP:
Q Dr. Dahlgren, during the break you were going to try to reach Dr. Schecter and ask him questions. Were you able to get a hold of him?
A Yes.
Q What did he tell you?
A That the data we reported in the Environmental Research paper in 2003 was from a group of patients that he examined or had a pooled sample from the year 2000, and that that was the first time it was reported and it was new data and that's why there was no reference for it.
Now, the other thing he pointed out was that it's very similar to what we just published in the JOEM, that the values are very, very similar, so there is no substantial issue here. The values, as I pointed out, I think, before the break, we're looking at numbers that

are similar and orders of magnitude that are very close, but the specific values presented in that paper came from a pooled sample that he did that year.
Q You're the lead auditor on the 2003 paper?
A Yes.
Q Do you remember actually looking at some sort of spreadsheet or analysis or something that would indicate those values that were reported in your paper?
A As I recall, and it's a few years since I wrote the paper, but I think, as I recall, he sent us an e-mail with these values and put them in the paper.
Q Do you still have that?
A I don't know.
Q Would you check for me. I will request that and I'd like to see the hard copy of that data.
A I think what he told me he'd do is find in his files, you know, the basis for that, and what reports he had in his files and the basis for that, and said that he's not sure that he can find it and has a very busy day of teaching most of the day and will make an attempt to try to find it.
Q If he can resend it to you, that's great, but what I really want is the data in your possession in 2003 or before 2003 when you wrote the paper, and I'd like you to check your files?

A I will do that.
Q Now, let's looking again at Exhibit 14. Before the beak we were talking about deposition Exhibit 14, and this is the spreadsheet of the data that acts as laboratories for data derived from the pooled samples; correct?
A I want to correct the impression that I gave earlier that there is something unusual about the pooled samples. They're very commonly done in -- we're talking about the pooled samples that Dr. Schecter has used for his Dallas controls in Environmental Research, but also in the JOEM paper that we're looking at, the pooled samples are used there.
It's a standard procedure to use pooled samples, especially when each analysis costs $2,000 and you want to know whether a population of people have an elevated value, you do the pooled sample procedure, and the AXYS lab does it routinely, and it's routinely done in all the scientific literature. So I don't want to give you the impression that there is anything unusual or abnormal or in any way lacking in scientific basis to do a pooled sample.
Q If the pooled sample becomes contaminated, then you have a problem; right?
A Well, pooled or individual samples if

contaminated is a problem and -- sure.
Q You pretty much have to throw the sample out and not use it, depending on the contaminant?
A Yes. I'd agree that if you have a contaminated sample, you have to get another sample.
Q Let's look at the values then for deposition Exhibit 14. Starting with TCDD, we have values across the -- let me back up.
I want to focus on 2,3,7,8 TCDD. Do you see the values reported on Exhibit 14?
A Yes.
Q You have numbers attached to these values but there is a K before each one of the numbers in the four pooled samples. Do you see that?
A Yes.
Q What's K mean?
A There a footnote, if you will notice, on the second page and it's K/R/NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
Q In layman's terms, what does that mean?
A The laboratory has a rule that you have to have a signal to noise ratio greater than 5 -- most labs use 5.
If the peak is under that amount, you can say

that the peak is probably a present but you can't reliably quantify that peak. For whatever reason on that run or these series of runs that they did, they didn't meet the quality control criteria for quantification.
So there was some TCDD there, and they just couldn't reliably quantify it, but what they then did is gave estimates of the amounts and these would be the maximum. That doesn't mean that's the accurate result, but it does indicate that it was probably there -- this number should not be relied upon because of the QC requirements but, you know, it had to be -- it had to be reported this way because of the lab requirements.
Q Can you tell me either from memory or from relying on the AXYS report what the quantification limit was for the TCDD results?
A No, I can't tell you what the signals to noise ratio problem was. We'd have to go back to the laboratory and get more information, whether they even can remember it or not.
Q Well, the quantification limits are something that should be reported in the lab report, I think; right?
A If you look at the acceptance criteria in their QC discussion --
Q Which page are you on?

A They have a whole analysis of TCDD and PCDF --
Q Page 1 of 6.
A It's the description of the analytical method. They describe how they do it, what the steps are, and these are all general criteria. I don't know where, if at all, they report the detection limits they had on that particular congener on that particular day.
Q Let's look at page 5 of 5, and this is near where you were looking because there are so many different sets of pages. It's after the long chart on acceptance criteria and it's Table 2. It says "Detection Limit," and the first statement is "SDL Requirements."
Do you know what that means?
A Not for sure, no.
Q And then after it says, "Blood: Tetra-penta CDD/F 0.2 picograms per sample."
A That's what it says.
Q Does that help you with the detection limit?
A Yes. But on a given run they might be different, and that's what is suggested here by the K. For whatever reason that particular analyte on that particular day, they were having problems, because two tenths of the picogram, they should be able to detect the TCDD.
As you pointed out yesterday, usually there is

some and it may be low, but it will be above point 2, but for whatever reason they detected it and couldn't quantify it. That's the important point.
Q To complete the thought, the K values we see on deposition Exhibit 14 for TCDD all exceed 2 picograms per gram; is that correct?
A That's correct. Detection limit is two tenths of a picogram, however.
Q So the detection limit is two tenths of a picogram and it exceeds 2 picograms, and that's at least one order of magnitude?
A That's correct.
Q What's the scientific reason for reporting zero as the mean value for TCDD, as opposed to reporting it as a K value?
A You can't reliably quantify the value -- you can do half the detection limit, which would be a tenth of a picogram, or you call it zero. Those are the two choices given for TEQ analysis.
In this case it was felt that -- recommended by the laboratory that we call it zero because of the inability to quantify.
Q Just for comparison sake, going back to Dr. Schecter's article in JOEM -- which should be marked as an exhibit.

(Defendants' Exhibit 15 was marked for identification by the court reporter.)
BY MR. HOPP:
Q I'm handing you a copy of deposition 15, a JOEM article from March 2005 that you photocopied during the break.
Looking at Table 6 -- take a look at Table 6 for me -- Dr. Schecter reports a pooled blood sample and he does get a result for TCDD. Do you see that?
A Yes, I understand.
Q And so Dr. Schecter's sample was broader, as we discussed, and included people from Grenada and others but he was able to come up with 3.8 as the TEQ for TCDD; is that right?
A Yes, a concentration of the TEQ, yes. Well, TCDD -- the TEF is 1 so the concentration and the TEQ is the same.
Q We'll talk about the TEQ as we go on.
I apologize if I asked you this yesterday. You've done a lot of this work where you had samples analyzed for dioxins and furans and other things.
Have you ever seen a report like this that comes back with a TEQ for TCDD as a zero?
A I think I've probably seen it done before but it's not common. Usually there is a result for TCDD.

Q Can you tell me specifically when before you've seen this?
A No, I can't. I've been looking at these things for 25 years and can't remember every detail. It's not uncommon to have these K's pop up. There is another K down in one of the furans.
Q And this is now 1,2,3,4,6,7,8 HxCDF; is that right?
A Yes. And the OCDF, there is also a K value on the composite B and composite D samples, as well. And then there is also a K on the 2,3,4,6,7,8 Hexa CDF under the D sample.
Q Now, under the octa, there is two K values; right?
A Comp B and D, both K values, yes.
Q For calculating the mean, you throw out the K values; is that right?
A As you can see, the values for that were -- what they have done is they have taken it looks like -- it looks like they took -- they gave some kind of value and if you take zero and 275 -- that's what they did. They calculated the K as zero. The mean value then was basically half of the detected value in Comp A, so they were being consistent.
Q I know we've covered this, but there were 40

people in the group from Greenville that made up the comparison sample; is that correct?
A Yes.
Q And the blood was divided into four pooled samples; is that right?
A That's correct.
Q Do you know the method by which people were chosen for each pool sample, that is, how did we decide that one person goes into pooled sample A, as opposed to pooled sample B?
A It's just a matter of the first ten, second ten, third ten and the fourth ten. The first group of 20 lived close to the Platte Chemical Plant, and the other group of 20 lived far away.
And we were trying to see if there might be an exposure factor for dioxins and there appeared to be no difference between the two groups, and there is no evidence in the environment there of any dioxins, so it would appear that all of these people were basically unexposed.
By the way, subsequently I received normal values obtained by Dr. Rod O'Connor on another town in Columbia, Mississippi where he was looking for controls, and the values that he found, which I've got a copy of here for you, were very similar to the Greenville values,

total TEQ was about 17 or 18 and giving, I think, reassurance to me that this Greenville data is indeed accurate for a control value.
Q You've got Rod O'Connor's data here for me?
A Yes, I do. When we take a break, I'll get it for you.
Q I don't know if we marked this. If we did, we'll do it again. Let's mark Table 5 as a separate exhibit -- that's Exhibit 16.
(Defendants' Exhibit 16 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Exhibit 16 is a Table 5 from your January 21, 2005 report in this case; is that right?
A Correct.
Q And the unexposed mean dioxin levels in Table 5 are derived from the table we see as deposition Exhibit 14?
A Yes.
Q Now, on Exhibit 14 you have two different means for -- it appears to me, anyway, two different means for the various congeners, and on Table 5, deposition Exhibit 16, you report single unexposed mean dioxins.
Do you see that?
A Yes.

Q How do we go from the value on deposition Exhibit 14 to the unexposed mean dioxin level in deposition Exhibit 16?
A Well, in Exhibit 16 we're talking about values that have been age, gender, race and smoking status adjusted by the statistician, and you can't extrapolate directly over, and you have to put it into the formula because there is a strong age coefficient for these values.
But there is also an influence on gender, males and females are different and race is an issues, as well. So all of these values were adjusted by the statistician to take that into account.
And, as I understand it, she used the mean values from the right-hand side here to enter into the equation but then adjusted them according to the variables that I stated.
Q Who is the statistician?
A Dr. Kotlerman is her name.
Q Does she work with you?
A Yes.
Q So she's responsible for the unexposed mean dioxin levels in Table 5 of your report?
A Yes. I believe the statistical method is discussed in the text that accompanies this table, the

technique that she used. It's a specific statistical method that --
Q Does it have a name?
A I don't recall the name. I have to look it up in the paper and from memory I don't want to guess what statistical method she used.
Q I'm looking at page 69 of your report and I guess the following pages --
A There is a section on statistical methods which I think is in that general vicinity.
Q If you would do me a favor of pointing it out to me and I can't find it.
A Okay. We'll look for it.
Q Are we booting up?
A Yes. I can't find it now. I know there was a specific technique that Dr. Kotlerman used, but I don't see it listed here, so I have to find out at a break and give it to you.
Q The description of the statistical method that Dr. Kotlerman used to derive the unexposed mean dioxin level is not contained within your expert report in this case; is that correct?
A I can't find it. I thought I put a sentence or two in there explaining that and I can't find it so it may not be there.

Q We'll take a break and without prejudice to objections later, I'd like that information.
A Sure.
Q Explain to me, at least in broad overview, how you take a value like say 6.98 for your mean value for a congener of dioxin and adjust that somehow for age, race and other variables? How do you do that?
A You put it into an equation and you have a coefficient for each one of the variables.
Q So there is an equation published in the literature?
A No, it's derived in your data. You look for age variable, you look for sex variable and you look for all these different influences on the data.
Q But the method for doing that --
A That's a standard statistical method, but I'll get you the name of which particular statistical method she used to do the correction. I think it was probably multiple regression analysis, but I want to double-check.
Q It appears that the multiple regression analysis or whatever she used had an effect with respect to some of the mean levels and not others?
A Right.
Q How do you explain that?
A That's what the data showed.

Q Just what the equation spit out?
A The statistician looks at the data and says, okay, here is the mean value for the age, X, Y and Z and this is the influence of age, and it has X coefficient and an influence of sex and smoking and ethnicity and race.
And sometimes the coefficient is very small and makes very little difference and you put it in anyway, and sometimes it makes a bigger difference. My guess is that in this case this explains the differences between -- most of these adjustments don't amount to anything major, but to be accurate she made those adjustments.
Q It may not amount to anything but they did change the numbers; right?
A Right. But in terms of TEQ, very little. Let's take one of them where there was a fairly big change and -- it was the 1,2,3,4,7,8 Hexa CDD. The mean value was 3.89 and with aging and other adjustments, the unexposed went to 5.19, so basically from 4 to 5.
Q A 20 percent difference?
A Yes. But in terms of TEQs, there is a point 01 TEQ, so I mean it's a very small difference.
Q Just so we're clear for the record, what I'd like is the name of the statistical analysis and all of

Dr. Kotlerman's calculations. I'd like to see how this work was actually done.
Do you keep that information?
A Well, she could probably recreate it. Ordinarily what she does is goes into the statistical program on the computer and puts in the data and spits out the values and generates the table and may or may not save -- you could conceivably save it, I guess, but you don't usually. What you usually do is if someone questions it, you recalculate it and show you the calculations.
Q Well, I'm questioning it, and, to the extent it exists, I'd like the saved calculations, and, if not, I'd like the description of the method that you claim is in your report and anything else related to how this work was done, existing paperwork relating to how it was done, and we may before this is over have to talk to Dr. Kotlerman about that.
A As I look at these, I think the only one that seems to be modified is the one that I pointed out to you. The rest of them are the same as listed here on the mean values.
Q What do you mean?
A In other words, the adjustment only affected that one variable. The rest of them came over as they

were calculated as the mean value.
Do you understand what I'm saying? If you look at the OCDD, for example, the 347.5, that's the value that is calculated from just taking the mean value of the four samples.
Q Let's clarify then --
A There is only one variable that is changed by the statistical method.
Q On deposition Exhibit 14, at the right side of the page, there are two columns, and I think I understand what we're dealing with here. Let's go column by column.
The first column after the name of the congener on deposition Exhibit 14 is Comp A, and that's the first pooled sample of 10; right?
A That's correct.
Q Comp B is the second?
A Yes.
Q And the third column is the average of A and B?
A Yes.
Q And the fourth column is the third pooled sample of 10?
A Yes.
Q And the fourth column is the fourth pooled sample of 10?
A Yes.

Q The fifth column is the average of columns 4 and 5?
A Right.
Q And the mean is the last column on the page on the right side?
A That's right. That takes into account all four.
Q So the mean for 2,3,47,8 Hexa was changed by your statistical method?
A That's correct.
Q And all the others --
A Were not altered by any of the variables.
Q Let's look at --
A I was looking at the dioxins and you're looking at the furans now?
Q I'm looking at everything. 1,2,3,7, 8 PeCDF --
A That's an increase. The next one isn't. The next one is not and the next one isn't and the next one isn't and then the Hexa CDF.
Q Let's go back to 1,2,3,7,8 PeCDF. Are you with me?
A Yes.
Q The number that gets reported as the unexposed mean dioxin level is the same number that appears as the average of pools A and B.

Do you see that? 1.045?
A Yes.
Q Is there a reason for that that you're aware of or is that just what the statistical method spit out?
A I don't know. I have to check and see.
Q Is it an unlikely coincidence that the statistical method would generate the same number as pooled samples A and B?
A No. It should be point 52 because, as you can see, in Comp C and D, the values were below the detection limit they had for that particular run, and it gave zero. And what is done is they have taken 1.045 and divided it by 2, basically, and that's half. So point 552 is half of it.
It may be a mistake. She may have put in the 1.045 instead of the 5.225. It's not analyzable, anyway, because the exposed group was zero on this particular analyte, and it doesn't have to carry any significance, but it may be that this 1.045 should be the point 552.
Q So that 1.045 in your report, in this case, that may be a mistake?
A It may be. But, like I say, it's of no consequence because it was not analyzed. There was a little star beside it that it was not analyzed.
Q Why are there more congeners reported in the

deposition Exhibit 14 than appear on Table 5 in your report? Why do you leave some out?
A Maybe because they were zero on both sides. I have to go through and see.
Q But if there was a value reported, that's something you'd want to put in your report; is that right?
A Yes. We would obviously put it in the report, but, if there was some reason we didn't -- for example, this 1,2,3,4,7,8,9 Hepta CDF -- let's see. It looks like we reported that.
Q As a zero?
A In the exposed and then point 907 in the unexposed. But that was really Comp D, the only detectable one, and she didn't use the mean with the zeros in that particular one but, again, it's not analyzed, anyway, so it doesn't add to them. It's not meaningful.
Q But there was a zero for TCDD and you included that; right?
A No. We didn't analyze the TCDD. There is an NA up there, indicating not analyzed.
Q The value for TCDD did not form part of your TEQ calculations; is that right?
A In the unexposed it was not added. That's

correct. To the exposed, it was added.
Q And so it made a difference?
A Yes.
Q Let's go back to deposition Exhibit 13. This is the 2005 AXYS document.
A Okay.
Q I'm looking at an unnumbered page but it's right before the chain of custody records.
A Okay.
Q It's entitled Compositing Scheme. Do you see that?
A Yes.
Q Down at the bottom, after the four charts, it says: "Due to insufficient sample size, the following samples were excluded from composites and were not analyzed." And it lists five different samples.
Do you see that?
A Yes.
Q Out of the pool of 40, five of them were thrown out; is that correct?
A Apparently, that's what happened. Well, we will see. It says S005, S0012 -- they're not included in the composite, the numbers and those five samples.
Q Composite A is comprised of 11 samples?
A There's 11 there.

Q Composite B is also comprised of 11 samples?
A Yes.
Q Composite C is comprised of 12 samples?
A Yes.
Q And Composite D is comprised of 13 samples?
A I see 12.
Q So the actual pooled sample included 46; is that right?
A Let's see 24 and 22 -- 46.
Q There were 46 individual samples that went into the pooled sample; correct?
A Yes. That is what these numbers suggest.
Q And five samples were thrown out?
A Well, were excluded because of the insufficient volume, which is strange, but that's what it says.
Q They were received by the lab and not analyzed?
A That's correct.
Q So you had 51 total samples that went to the AXYS lab; correct?
A That's what it suggests and it's not in my remembrance but let's see how many chain of custody levels they had. It says here -- we go to the sample preparation records --
Q This is towards the end of the document?
A Kind of in the middle.

Q This is No. 1 through --
A I have to go through and count and see, but it looks like they actually got 55 blood samples. 6 is missing. That's what they did, was drop some of them. Maybe it is 6. So 6, 26, 27, 37 and 17. So there is not a sample preparation record for those five samples and they's saying there were only 9 mills, 10 mills, less than a mill, 10 mills and around 4 and 1/2 mills for those five samples.
Q But the question was how many samples were received by the lab, 51 or 55?
A I think we -- we have to go through it probably in more detail, but it appears that there were some samples -- when they first got them, they did not prepare them because they didn't think they had a sufficient volume and those are the ones they excluded, but it looks like with sequential numbering, the lab is up to 55 samples.
Q So there is samples --
A Unaccounted for.
Q Look at the sample preparation report for sample 20. This is L7318-20. A pipette broke off in that sample.
Do you see that?
A Yes.

Q Was that sample then used?
A I don't know. I have to go back and see. That would have been number 20. It looks like they used it in Composite C.
Q The other I.D. number is S0003; correct?
A Yes. That was the patient label.
Q And on some of these the -- let's look at sample 1, for example. It says "Inverted vial 20 times" -- and this is the procedure section -- and then there is a symbol before 20 times.
What's the symbol mean?
A Approximately.
Q Subsampled approximately 3 milliliters into a new vial?
A Yes.
Q And then used it to create a composite; is that right?
A Yes. So now we have a composite sample and that's how we got the additional sample preparation numbers up to 55.
Q So some of these samples are combined in the composite?
A Most of them. The composite A, B and C and this is -- sample 52 is Comp A, and 53 is Comp B, and 54 is Comp C and 55 is Comp D, and these are created from

these various other samples.
Q Comp C, for example, has how many samples -- it has 11 samples in it?
A 12.
Q And that's sample 54?
A Yes.
Q And the sample preparation records, we have AXYS I.D. No. 1, 2, 3, 4, 5, 7, 8 and 9 -- I'm sorry, and 8, going into sample 54; is that correct?
A 19, 20, 21 and 22. 1 through 8, 18 through 22.
Q I do have a question or two -- let's look at sample 52. This is one of the composite samples; is that right?
A Yes.
Q And so the procedure is they inverted the vial 20 times and then subsampled 3 milliliters of each into a new vial and inverted the new vial to mix and divided it into two vials?
A Yes.
Q And you have 3 milliliters divided into two vials; correct?
A No. 3 milliliters were taken from each individual patient samples and put into the composite sample and then they took the total volume and divided it into two.

Q I see. The total volume of the composite samples was divided into two?
A Yes.
Q And that's what they did for each of the composite samples -- 52, 53, 54, 55 -- 52 through 55.
A And then Composite C, it's 18 mills each, which would be about right.
(Defendants' Exhibit 17 was marked for identification by the court reporter.)
BY MR. HOPP:
Q I'll show you what we marked Exhibit 17. Do you recognize that?
A It looks like a report from the Columbus, Mississippi group Grenada. This is the Grenada report from ERGO.
Q ERGO is Olaf Papke?
A Olaf Papke works at ERGO.
Q Do you have any ownership interest in ERGO laboratory?
A No.
Q The description sample in the ERGO report indicates that the names of the people who provided the samples which went into your exposed mean dioxin calculations; is that correct?
A Yes.

Q And these are Grenada residents who are somehow selected for inclusion in this testing; is that correct?
A That's correct.
Q Do you know how they were selected?
A They were selected on having still lived in the area and being part of the group, and I think we tried to get most of them living within a mile of the plant, but actually several of them turned out to not be living within a mile of the plant, and these are a cross-section of the plaintiffs that we examined and were picked pretty much at random. The only real requirement which we had was they still had to live in the area and not moved to Memphis or some other place.
Q I have more detailed questions about that and we'll get to them later, but I wanted to cover briefly this report.
Deposition Exhibit 17 is the entirety of Olaf Papke's report; is that correct? The last page says end of report so I'm guessing this is it.
A He, I think, includes the report on the individual patients here. Without going comparing it with the report in my file, it looks like it's complete.
Q And Dr. Papke, or his lab at least, did sampling of analysis of blood samples sent to him from this Grenada cohort; is that correct?

A Yes.
Q Why did you use Dr. Papke's lab for the Grenada cohort and the AXYS lab for Greenville controls?
A Well, that was just a circumstance. In Greenville the other consultants wanted to do the dioxin levels, and had been using AXYS and wanted to use them, and I really didn't have any role in picking the lab at that point.
Q Who is the other consultant in Greenville?
A Dr. Parant.
Q P-a-r-a-n-t?
A Yes.
Q What's the first name?
A I'm not sure.
Q Now, as part of the work that ERGO did that Dr. Papke did in Germany, did he analyze a control sample that was provided by Dr. Schecter?
A Well, yes -- I don't know if done on this report but ERGO labs has done control work for Dr. Schecter on a routine basis, and he may have had a new sample he ran simultaneously and I'm just looking to see where the sample came in. You say you saw the report --
Q Figure 2, on a bar graph, and figure 3 that shows up on a bar graph, and I think the last page of the report mentions the --

A I don't know if it was done simultaneously.
Q It's not the last page --
A Let's see where was it. Dr. Papke had done the work for -- here it is, page 55 of 60, AJS WB 12/03/03 Schecter, and these would have been controlled pooled samples from Dr. Schecter to the laboratory.
Q Now, you're listed as the client on the ERGO report?
A Yes.
Q Did you ask Dr. Papke to do this work?
A Yes.
Q Did you ask him to analyze Dr. Schecter's control sample?
A Well, I don't remember if I specifically asked him to do that or not, but Dr. Papke usually does give or ERGO labs, to say it more accurately, does usually give a reference range and some basis for making a reference.
Q I'm curious. How did ERGO know to analyze a sample that was collected or sent to them by Dr. Papke in late -- let me back you.
You instructed ERGO to do the work for Grenada; is that correct?
A Yes.
Q And the report actually -- the ERGO report is dated February 11, 2004?

A Yes.
Q So it's over a year ago they reported this; is that right?
A That's correct.
Q And the samples that you collected or that were collected for the Grenada cohort are identified in this table and shows up on the first page of the report and goes on to the second and third pages. Those samples collected in December of 2003 and November of 2004; is that right?
A Date of collection?
Q No, receipt of sample 11/12/2003.
A Yes, that's what it says.
Q And the date of test performance is sometime between December 2003 and November 2004?
A Yes.
Q Is there a specified hold time for samples like this?
A Dioxin and furans and PCBs have no shelf life and can keep it for 20 and 30 years and still analyze them.
Q Do they need to be frozen?
A They usually are. These particular chemicals through their chemical nature don't break down, and that's one of the problems with them.

Q So you have samples being collected and sent to Dr. Papke in late 2003. You also apparently received a sample from Dr. Schecter in late 2003.
And my question to you is do you know why that occurred? Why Schecter sent them a sample and, more specifically, did you ask Schecter to sent Dr. Papke a sample?
A I don't specifically recall if I asked him or not. What Dr. Schecter did was he said, "Look, I've got a pooled sample. I don't recall asking him to send it but that is I think what happened.
Q Were you talking to Dr. Schecter about your work in Grenada around this time period?
A I consulted with Dr. Schecter about doing this particular set of tests, yes.
Q Do you characterize him as a collaborator for the purpose of the dioxin results you derived in Grenada?
A Collaborator, that has a sinister ring to it --
Q I didn't say co-conspirator.
A I called him and asked him his opinion of what tests to do and where to send it and that kind of thing. I frequently talk to Dr. Schecter about cases that involve dioxin.
Q He's a co-author on the paper you did?
A Yes, we work together.

Q Did he help you write your expert report in this case?
A No.
Q With respect to your expert report, did you write all of it?
A Well, I wrote all of it, but I had input from my colleagues and Dr. Anderson, the epidemiologist, and Dr. Kotlerman, the statistician, and Mr. Harpreet Takhar, an epidemiologist, one of the authors on the paper, as well, and other people in my office who helped pull together some of the references and tables. I had help, let's put it that way.
Q You had help from Anderson, Kotlerman and Takhar?
A Yes.
Q Anyone else?
A No.
Q When it came to choose the wording going on the page, who did that?
A Me.
Q Did you cut and paste from any other documents?
A No.
Q Some of the paragraphs seem that way, and we'll get to those as we go, but, as we sit here today, you have no recollection of cutting and pasting from

something else?
A I have no recollection of cutting and pasting.
Q So you dictate and handwrite every word contained in your paper?
A That's my recollection. Dr. Anderson may have written some sentences that I incorporated and I don't recall.
Q Do you think Dr. Kotlerman had written some sentences you incorporated?
A My recollection is she gave me couple of explanations of what statistical method she used. I don't see it in the report and probably didn't make it in the report.
Q Did Dr. Takhar give you any --
A He's a master's level epidemiologist and not doctor level but Mr. Takhar -- he may have written some sentences that I used in the final product and I don't recall.
Q Looking at the control values provided by Dr. Schecter, this is tables -- figures 2 and 3 in the ERGO report, which we have marked deposition Exhibit 17.
A What page?
Q Figures 2 and 3?
A What pages.
Q 12 of 60 and 13 of 60.

A All right.
Q The control value of Dr. Schecter falls on figure 2 somewhere in the middle of the range statistically, doesn't it?
A Yes, a TEQ listing, that's correct.
Q And it's hard to read the graph. Do you know what specifically the TEQ is for dioxins that Dr. Schecter provided in his reference of figure 2?
A About 34, I think, that's what it is. I think we read that earlier. Yes, the TEQ total is 34.
Q Same number shows up in the paper that you and Dr. Schecter authored and was published in Organohalogen Compounds; correct?
A Right.
Q Looking at the second figure, figure 3, this is page 13 of 60 in the ERGO report?
A Yes.
Q Drawing your attention to figure 3, deposition Exhibit 17, there is an arrow at one of the lines in the bar graph that says "Control sample provided by A. Schecter."
Do you see that?
A Yes.
Q This table purports to represent OCDD data in U.S. blood samples?

A Yes.
Q And what value, if you know, did Dr. Schecter report for his control sample?
A Let's go back and find it rather than try to read it from that graph. OCDD was 374.
Q And that's the same number we see in table -- same number that shows up in your published paper from Organohalogen Compounds, deposition Exhibit 6?
A Right.
Q Now, it appears, and we'll go through these controls individually and look at the questionnaires later today, but it appears, looking at tables 2 and 3 that there were several people who were at the high end for all of these values; is that right?
A Yes. There is some that are at the high end.
Q Let's look at figure 3, sample H-03-12-0367 is at least twice the level of the next sample in order.
Do you see that?
A Yes, it's quite high.
Q Is there some reason you didn't throw out that sample as a statistical aberration?
A No, you don't throw out a sample just because it's high. There is no basis to do that. You throw it out if there is some basis for it. In other words, if there is something wrong with the sample or the

collection or something, but there is no reason to throw out a value because it was high.
Q Do you consider that sample to be representative of the population of Greenville?
A This is Grenada.
Q Sorry. Is this sample representative of the population of Grenada?
A No. It's the highest value and not the mean value, so there is -- basically there is several of them that are significantly higher than the control value.
Q For the purpose of arriving at your mean values, you essentially averaged the value for all the samples to arrive at the means?
A That's correct.
Q So these high values, like the 0367 value we see on figure 3, that was included in your average to derive your mean; is that correct?
A Yes.
Q I'm going to switch subjects and let's take a five-minute break.
MR. LUNDY: Sure.
(Recess.)
BY MR. HOPP:
Q Back on the record. Doctor, you brought photocopies in with you. Is there anything new you

identified?
A Well, this is material that I have for reference in case it comes up in the discussion, and it's a group of papers on PAH addicts and their predictive value, that when PAH adducts are elevated compared to background levels there is an increased risk of developing cancers and various types.
Q Are those papers cited in your report?
A I cited, I believe, one paper, the Tang paper what was a study by Phillips and others, of doctors from Harvard Medical School, where they did PAH adducts and followed them for 20 years and found a correlation, the ones with the higher adduct levels had a higher rate of lung cancer.
Q So you cited Tang but the other papers in front of you are not cited in your report?
A I referred to them yesterday, Dr. Perera from Columbia is the author of several of these papers and alluded to her research in this area. We were talking about birth weight and low birth weight for gestational age and prematurity being related to PAH adduct levels as a different end point with the PAH exposures.
Q Now, I know you relied in these papers in response to questions I asked yesterday. Would you say that you relied on these references generally for the

purpose of forming your opinions in this case?
A Yes.
MR. HOPP: I want copies of these. There is one other thing. You produced several disks containing papers on which the doctor relied, and we have done a lot of work to try to get other papers in the library listed in these reference, and there is a list of items he's not able to obtain, and I'll send you a letter, hopefully tomorrow, and if not on Friday, laying out the few that we don't have.
Q Doctor, before I switch subjects, I want to ask you about the U.S. EPA dioxin reassessment, which is currently ongoing. Are you familiar with that process?
A Yes.
Q What's your understanding of the nature of the process and the current status?
A Well, there is an enormous debate going on, I suppose you can call it a debate, within EPA and probably within the scientific community about what is a safe level of exposure to dioxins and dioxin-like compounds, and that would include the PBDEs, by the way, which is a newcomer to this debate, and the data we published that we have referenced here in whatever number of attachments.
Clearly, there is an issue about whether the

current levels of PBDEs, PCBs, dioxins and furans in the general population is, in fact, causing a health effect and whether or not further steps need to be done to reduce exposure of these class of compounds to stimulate the AEH receptor, that's sometimes referred to as the dioxin receptor.
I don't think there's any debate that people want to reduce dioxins but the real debate is how much regulatory pressure is going to be exerted on industry and people in the food industry, in particular, but also in the power industry and in other areas of the paper industry and other areas where dioxin generation is a problem with flame retardants and it's several different industries where those chemicals are used.
You can summarize by saying that there is a number of industry groups trying to slow down regulatory motion towards tightening control on these types of chemicals, which would include pentachlorophenol which contains in its technical form the form that's usually used in industry, not pure and contains as much as one percent dioxins and furans and really is a major problem and an unwanted contaminant of manufacturing penta.
When you burn penta or penta-treated wood, you create more dioxins, and that's really the banning or the restriction of the use of all these types of chemicals

that is the debate that is going on.
Q Where does the EPA stand right now in the process?
A Well, I think the latest pronouncement that the EPA made was in November 2003 where there was a consensus within the agency that they needed to go public with the notion that we need to try to reduce where possible dioxin generation.
The only other thing that I'm aware of from the meeting in Berlin in September is there is some discussion about revising the TEQs. From what I heard about that discussion, it doesn't appear that it's going to make a heck of a lot of difference for the underlying questions, but there is some attempt maybe to move the TEQ values up and down with different congeners based on new data.
Q We've talked over the last day and a half about several different papers that you published and studies that you've done where you compare an exposed population to an unexposed control population for dioxin levels.
In each instance -- correct me if I'm wrong -- the control values you use are controls that were either identified by Dr. Schecter or in this case the Greenville controls you identified yourself; is that right?
A Correct.

Q Is there some particular reason you rely on Dr. Schecter or in this case the brand-new controls for the purpose of identifying control values, as opposed to other literature that's out there and available?
A I don't know what you're talking about. Dr. Schecter is the author of the world's literature of the background levels of dioxins and an author of all the papers on that subject and the textbook on that. He's the world's authority on this.
Q He's written all the papers on background levels?
A Most were written by him. He didn't write all of them.
Q Let me show you what we're going to mark as Exhibit 18?
MR. LUNDY: I don't see the author who wrote this.
(Defendants' Exhibit 18 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Deposition Exhibit 18 is a section of the draft dioxin reassessment report currently available on the U.S. EPA's website.
Have you read either all or part of the current draft of U.S. EPA's reassessment document?

A No. I referred to the conclusions of this report, and I said it was November 2003, and it looks like, based on what you gave me, it's December 2003 where they published this draft, and, like I said, I have not read the entire thing. This is section 4, which has to do with background levels.

Q And the report, the draft report from U.S. EPA does -- let me start again. Deposition Exhibit 18, as you said, is the section on background concentrations and it's the EPA's attempt in December 2003 to summarize the state of the science on background concentrations on various dioxin congeners; correct?

A Yes.

Q And it does cite several tables, which I'd like you to look at -- well, let me ask a foundational question.

I notice in looking at the literature that some measure dioxin in blood and some in adipose tissue?

A Yes.

Q What's adipose tissue?

A Fat tissue.

Q Is there a particular reason why one measures dioxin in adipose tissue, as opposed to blood?

A Not in this day and age. It used to be that you couldn't because of the technical limitations of the

laboratory. You needed a whole unit, that means 500 cc's of blood in order to get a blood dioxin measurement. In the early days that's what we used to do with a blood bank, get a whole unit. Nowadays we can do it on a sample of 20 mills of blood, and so it is no longer necessary to do the adipose tissue.

Q You did adipose tissue before because you took less?

A Well, instead of taking a unit of blood, you do a fat biopsy. You use a needle to do it. However, both needle biopsies and the unit of blood are very, very difficult to deal with.

Q If dioxin is in a person's system, is it an equilibrium between the blood and adipose tissue?

A Yes, but you have to correct to blood fat, which is the way it's done now and per gram of blood fat, which means it is in the same -- those correlations between adipose tissue biopsies and blood fat analyses correlate at the point 9 level, so it's fine.

Q So I understand, the old adipose tissue samples, assuming they're correct for blood fat, should show you the same information that the current blood samples show you?

A It should be close, yes.

Q And what you're looking for is a person's body

burning for the various congeners of dioxin; right?

A Right.

Q Looking at tables 17, 18 and 19 -- and this is on pages 4-95, 96 and 97 going on to 98 -- there is an EPA report series of background samples, reports on a series of background samples, including Schecter's.

Is there a particular reason you didn't rely on this broader spectrum of background sample data?

A The main reason is there is not a lot of difference and it's very similar values.

Q What was the NHATS program?

A NHHES -- National Human Health Evaluation Study carried out by ATSDR and CDC. Every few years they go out and examine the American population for purposes of assessing their health status.

Q I understand what NHHES is. But have you heard of a program called NHATS?

A I don't remember what it is. I've seen it but I don't recall offhand what it is.

Q Your answer is that the sample data that you get from the other authors and Dr. Schecter's sample data is pretty much equivalent; is that right?

A Well, as I said, the important point is to have a comparison group that is similarly situated and done at a similar time, as much as possible match for all the

variables that are important, except for the exposure.

So looking at, for example, the things listed in table 4-18, values for the mean values are very similar to what we've seen. The congener specific concentration at 4-17 is even closer to, you know, what we've seen in our comparison groups, but I don't -- you have to pick a control. As I said, the best control if you have it is simultaneous controls.

Q In some of your published papers, you use national control data?

A If we don't have something else, we use that. That's correct.

Q And the point is there are other studies that contain national control data that were not authored by Dr. Schecter; right?

A Yes, there are. Six of the 9 listed in 4-19 were Schecter's data.

Q And some of those show higher levels on a national or regional basis --

A The important part here is to look at the time frames. 4-19 is 1980's to early 90's when we have reason to believe the values are higher than they are now in the background population, as we discussed earlier.

Q Schecter has older papers that show higher values --

A That's what I said.
Q I'm making clear I understood you. We were talking over each other. And other people have older papers that report higher values?
A Yes.
Q Are there current papers within the last two, three years not authored by Dr. Schecter that report background levels for dioxin?
A Certainly not listed here in the tables you have in front of you. Almost all of them are from the 90's and 80's, and it's a question of -- I relied on Dr. Schecter's expertise as a co-author in the papers to give me meaningful data.
I did not start saying, well, I'll go find some other normal values so I have not made a concerted effort to look into the questions you raise. But, as I look here at these papers, I don't see anything current. They don't have -- as Dr. Schecter said to me this morning, the best data available is data in this paper, which is the latest data.
Q The 2005 paper?
A That's what we use for our comparisons at the moment.
Q Has anyone else come out with a paper in 2005 that had similar background dioxin levels to what Dr.

Schecter has published?
A I don't know. I can go look it up but, off the top of my head, I don't have any.
Q Let's go back to the plaintiffs we were discussing yesterday. Let's just do a little housekeeping. We talked about three different plaintiffs yesterday, and I want to mark this as Exhibit 19.
(Defendants' Exhibit 19 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Deposition Exhibit 19 is your summary of your opinions for Patricia McNeal; that is correct?
A Yes.
Q And is deposition Exhibit 19 a complete summary of your opinions for Patricia McNeal?
A Yes.
Q Does Exhibit 19 leave out any major opinions with respect to Patricia McNeal?
A As I pointed out yesterday during the cross-examination about this, that the cancer she had in 1994 was a uterine cervical cancer, squamous cell type and not a skin cancer and the report was incorrect on that point and needs to be corrected. Otherwise the report is complete.
MR. HOPP: Let's mark this 20.

(Defendants' Exhibit 20 was marked for identification by the court reporter.)
BY MR. HOPP:
Q Do you recognize Exhibit 20?
A This is the questionnaire that Patricia McNeal filled out for us.
Q It's a complete copy of the questionnaire?
A It looks like it is.
Q And it contains neurological testing?
A Yes.
Q And that was done by Dr. O'Jile?
A No. This testing in my file was done by me and my staff.
Q Were the results of that testing transmitted to Dr. O'Jile as a basis for her opinions?
A She went ahead and did her own studies.
Q So there is separate study results for you and your staff and Dr. O'Jile?
A That's correct.
Q On your standard questionnaire and, as reported on your summaries, you include a question about bleeding from the eyes; is that right?
A Yes, sir.
Q Is there a particular reason why you include a question about bleeding from the eyes on your

questionnaire?
A Well, in ordinary life bleeding from the eyes doesn't occur. And, therefore, if someone answers the question yes, we consider them to have at least questionable reliability.
Q That's a red flag question to see if someone is possibly malingering or answering incorrectly?
A Yes.
Q Are there other questions in your reports similar in nature?
A No, that's our own validity question.
Q Are you aware of other people who do what you do who use other questions to detect malingering?
A Yes, there are other tests questions that people use. I don't know off the top of my head what they are and have seen in reports, particularly neuropsychologists have a test that they give people to detect malingering. It's not a simple question and a protocol they go through.
This bleeding eyes question I got from a doctor who happened to be a defense doctor who used that as his validity question and so I started using it some 25 years ago.
Q Have you had anybody tell you that they're bleeding from the eyes?